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20 October 1970

## MEMORANDUM FOR THE RECORD

SUBJECT: Evaluation of VIATRON System 21 Equipment

1. During the months of July, August, and September this office tested three of VIATRON's System 21 key-to-cassette input devices. Our testing methods included inviting a number of potential users to experiment with the VIATRONs and to let us have the benefit of their observations. We also ran a service bureau of modest proportions within our own office, turning out with the VIATRON a number of small jobs for "customers" within our own agency. In both types of testing, the VIATRON operator produced a magnetic tape cassette which we then converted into punched cards with a VIATRON device that connects the System 21 to a standard IBM Keypunch. We did not test VIATRON's cassette-to-computer tape converter because the company was unwilling to rent one of these converters to us. For reasons not entirely clear, they established a sell-only, no-rent policy for that particular equipment.

2. Reactions from the experimenters were mixed. Among the dozen or so people who operated the VIATRON there was general agreement that it is not difficult to master. But from the managers to whom we had suggested that source data automation, through use of VIATRON, might get their data into the computer more quickly and with lowered error rates, there came a number of adverse comments. Here are some typical comments, both favorable and unfavorable:

## a. For the System 21:

- (1) It is quiet, whereas the Keypunch is noisy.
- (2) Errors are easily corrected before records are entered into the cassette.
- (3) No cards are wasted as the result of keypunching errors.
- (4) The System 21 also operates as a verifier; it thus replaces two devices, IBM's 059 as well as the 029.
- (5) Sight verification is possible since the VIATRON displays an entire record at a time. For some applications, manual verification may be eliminated entirely.

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(6) One cassette is less bothersome to handle than the equivalent 400 cards.

(7) Programs may be retained in tape form and re-entered as needed into the System 21. The process is simpler, for the experienced VIATRON operator, than is the corresponding operation with the Key punch.

(8) The VIATRON performs certain useful additional functions, such as retrieving and reformatting, which the Key punch cannot perform.

b. Against the System 21:

(1) The VIATRON displays only a single 80-character record, or line, at a time. For some of the input forms that we use the analyst must fill in up to twenty lines, not always in the same order. Keeping track of which lines he has entered and which remain to be entered is troublesome or impossible when the input sheets have been replaced with the VIATRON.

(2) Elimination of hand-coded input sheets, one of the apparent advantages of source data automation, turns out to be a disadvantage to the analyst who needs some temporary record of his work pending receipt of the next scheduled computer run.

(3) The size of the VIATRON equipment causes problems in some areas where space is already at a premium.

(4) The capacity of one cassette--just over 400 80-character records--is less than what several of the users would like.

(5) The senior analyst has found the input sheets useful as a means of spot-checking the work of his analysts. Again, since VIATRON eliminates these hard-copy records, the manager feels deprived of needed information.

(6) When the device goes down, about half a day is required for a technician to arrive on the scene and make repairs (although the repairs themselves have usually required only less than an hour). In our experience a busy machine was down about once a week, or some ten percent of the time. This was excessive, we thought.

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3. On the basis of the evidence summarized above, and taking into consideration, also, several indications that VIATRON may not be able to stay in business for many more months, we decided against acquiring any VIATRON equipment for long-run use.



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